

## CLAIMS

What is claimed is:

1. A method of manufacturing a pyrolytic carbon annular valve body for a mechanical heart valve comprising  
5 forming a mandrel,  
placing the mandrel in a fluidized bed,  
coating the mandrel with a first layer of pyrolytic carbon,  
introducing a fiber,  
10 coating the mandrel with a second layer of pyrolytic carbon, said second layer including said fiber,  
coating the mandrel with a third layer of pyrolytic carbon, said third layer not including fiber,  
removing said mandrel from said coatings, and  
15 shaping an outer surface of said coatings to form said annular valve body.
2. The method of claim 1 wherein introducing a fiber comprises inserting a plurality of fiber segments into said fluidized bed.
3. The method of claim 2 wherein said chopped fibers are of critical length.
4. The method of claim 1 wherein introducing a fiber comprises wrapping at least one fiber around said first layer.
5. The method of claim 4 further comprising removing said mandrel from said fluidized bed, wrapping said at least one fiber around said first layer and replacing said mandrel in said fluidized bed.
6. The method of claim 1 wherein said fiber is graphite wire.
7. An annular valve body for a mechanical heart valve comprising  
an annular body defining a central orifice, said annular body having

a first circumferential layer of pyrolytic carbon, said first layer not including fiber;

5 a second circumferential layer of pyrolytic carbon, said second layer including fiber, and

a third layer of pyrolytic carbon, said third layer not including fiber.

8. The valve body of claim 7 wherein said fiber comprises a plurality of segments.

9. The valve body of claim 8 wherein said fiber segments are of critical length.

10. The valve body of claim 7 wherein said fiber comprises at least one fiber wrapped around said first layer to form at least one layer of fiber circumferentially around said first layer.

11. The valve body of claim 19 wherein said fiber is graphite wire.

12. A mechanical heart valve comprising  
a pyrolytic carbon annular valve body defining a central orifice, said annular valve body having

5 a first circumferential layer of pyrolytic carbon, said first layer not including fiber,

a second circumferential layer of pyrolytic carbon, said second layer including fiber, and

a third layer of pyrolytic carbon, said third layer not including fiber,  
at least one leaflet pivotally received in said orifice, and  
10 a sewing ring circumferentially mounted adjacent said third layer of pyrolytic carbon.

13. The mechanical heart valve of claim 12 wherein said fiber comprises a plurality of fiber segments.

14. The valve body of claim 13 wherein said fiber segments are of critical length.

15. The mechanical heart valve of claim 12 wherein said fiber comprises at least one fiber wrapped around said first layer to form at least one layer of fiber circumferentially around said first layer.

16. The mechanical heart valve of claim 12 wherein said fiber is graphite wire.

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